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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,621	04/17/2006	Hiroshi Ono	KOD189B.001APC	1727

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EXAMINER

FORTUNA, JOSE A

ART UNIT	PAPER NUMBER
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1791

NOTIFICATION DATE	DELIVERY MODE
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12/23/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/563,621	Applicant(s) ONO ET AL.	
	Examiner José A. Fortuna	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/03/06; 01/06/06; 01/26/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: it is suggested to include the patent/document/publication number at the instant of its description, instead of using a number and indicating the patent/document/publication number at the end in the index type of description. This would improve the reading of the application and/patent since the reader does not have to go back and forth to identify the document.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague and indefinite, because the link between of the different monomers is not clearly defined, e.g., the component/monomer is recited and then in a separate line other components, presumably, some specie of the mentioned monomer, are recited.

Therefore, it is unclear if those monomers are linked to one another or should be other monomers of the same genus. It is suggested to link them, (if they are just the specie), by the some transitional phrase/clause/words), e.g., wherein said "monomer" is selected from the group..., " or in the way that the newly added claim, claim 12, was constructed.

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Also in claim 1, in the definition of the different monomers, the recitation of the group(s) is an improper Markush grouping. It should be “selected from the group consisting of ...” or “selected from the group consisting essentially of...”

In claim 1 and 12, the phrase/clause “or a copolymer obtained by the quaternization of any of these components in which a vinyl monomer containing a tertiary amine group is used as component (b), by component (d)¹” renders the claims indefinite since it is not well understood. The claims recite that the quaternization can be done to any of the monomers, but then a tertiary amine has to be used as component (b), which renders the claims unclear since it is unclear if the quaternization is done to the copolymers of (a)-(b) and (c) in which (b) is a tertiary amine or is done to any of the monomers, but when done to monomer (b), monomer (b) has to be a tertiary amine.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5, 12, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Koji et al., JP-11-323774 (Machine translation used) or Yuji et al., JP-2000-064193, (Machine Translation) or Noriaki, JP 06-240598, (Machine translation).

Noriaki, Yuji et al. and Koji et al. teach a paper which is sized with a cationic compound, which could be a starch, a PVA or a polyacrylamide meeting the requirements the

¹ Even though the corresponding phrases on claims 1 and 12 are not “words by words” the same, the idea is the same and therefore, only the phrase/clause of claim 1 has been indicated.

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compound A of the current application and a copolymer formed by monomers, which conforms the components B of the current application.

Koji et al. teach a sizing agent comprising a cationized starch and a hydrophobic polymer comprised/formed of monomers including styrene, monomers having tertiary amino group and optionally other polymer with quaternizing agent, see abstract. In paragraphs [0004] through paragraph [0008] of the detailed description of the invention, Koji et al. teach a composition including the starch as component A and a polymer obtained by the copolymerization of styrene or styrene derivative, (α -methylstyrene and chlorostyrene are specifically mentioned on ¶-[0006]), and a vinyl monomer containing a tertiary or quaternary ammonium group, which reads in the copolymerization of (a) and (b) of the claim 1, and they also teach that the copolymer can be copolymerized with a acrylic acid/ester derivatives, e.g. meta- acrylate, etc, which reads on (a)-(b)-(c), and can be quaternized with the same quaternizing agents as recited in the current independent claims, e.g., epichlorohydrin, methyl chloride, benzyl chloride, etc., see ¶-[0007], which reads on (d).

Noriaki teaches a sizing agent for making paper, including newsprint, containing a component an aqueous solution or dispersion of a copolymer of a vinyl monomer, (same as component (b), see ¶-[0011] of detailed description), and α,β -ethylenic monomer, which could be styrene and derivatives, see ¶-[0012] of the detailed description, which reads on the component (B) of the claims. Noriaki teaches also that Polyvinyl alcohol can be used as a protective colloid for the polymers emulsion, ¶-[0017], which reads on component (A) of the claims.

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Yuji et al. teach a newsprint paper for offset printing which is surface size or coated with a composition containing a cationic starch, (reads on component (A) of the claims), and polystyrene particles, see abstract. Yuji et al. teach that the polystyrene particles are formed by the copolymerization of styrene or styrene derivative, (monomer (a) of component (B), and styrene, methylstyrene and chlorostyrene are specifically mentioned on ¶-[0020] of the detailed description), with a cationic monomer containing quaternary ammonium, see ¶-[0021], which reads on the copolymerization of (a)-(b) or (a)-(d).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 2-4, 6-11, 13-16 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koji et al. or Yuji et al. or Noriaki, all cited above.

The cited references are silent with regard to the degree of cationization of the surface sizing agent, nor the average particle size of the emulsion, nor the addition of aluminum sulfate to the papermaking pulp. However, optimizing the degree of cationization and the particle size of an emulsion is within the levels of ordinary skill in the art and obvious absent a showing of unexpected results. It has been held that “[T]he discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. *In re Antoine*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); *In re Aller*, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1995). Also, it has been held that it is obvious to try, choosing from a finite number of identified, predictable solutions with a reasonable expectation of success. See recent Board decision *Ex parte Smith*, --USPQ2d-- , slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007) (Citing KSR, 82 USPQ2d at 1396).

As to the aluminum sulfate, i.e., Alum, the use of such compound is well known in the art² and therefore, its use would have been obvious to one of ordinary skill in the art.

² The examiner takes official note of this fact and would present proof when necessary, if required.

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Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure in the art of "Surface Sizing of Newsprint."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José A. Fortuna whose telephone number is 571-272-1188. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/José A Fortuna/
Primary Examiner
Art Unit 1791

JAF